

SECURITY INFORMATION  
**CONFIDENTIAL**

24 November 1953

**MEMORANDUM FOR THE RECORD**

**SUBJECT:** Project Monitor [redacted]  
[redacted] on P-101; Communication System, Infra Red  
(RD-54, T.O. #1) on 13 November 1953

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**1. Attendance:** [redacted]

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**2. Discussion of Progress on P-101**

a. The major problems at this time are the selection of the most suitable power supply and light source.

**Power Supply**

A review of various power sources revealed that the maximum power delivered from a unit of minimum weight is a gasoline motor-generator source. Any such power source for the proposed two-way I-R communication system should have the following characteristics:

- (1) Power: 10-70 watts (continuous duty)
- (2) Operating Speed: 20,000 RPM
- (3) Life of engine: 100 hours continuous duty

The answer to the question of ultimate ownership of the motor-generator rights and manufacturing privileges will directly effect the cost of the unit when delivered to CIA. The APD representatives advised [redacted] that an answer to this question will be sought prior to [redacted] visit to Washington on 20 November, provided the [redacted] UGP-12 motor is not being manufactured for another division of CIA. If the [redacted] is for our interest, it will be wise to investigate the possibilities of using this motor and not designing a new motor. If a new motor is to be built, it is believed that the U.S. Government would seek the lower price (approximately \$150.00 per unit saving) which is in effect only if ownership and manufacturing rights revert to the manufacturer.

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DOCUMENT NO. 3  
NO CHANGE IN CLASS. ☐

DECLASSIFIED

CLASS. CHANGED TO: TS S 2010

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b. Flexibility

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b. Flexibility

It was tentatively agreed that each unit would be an independent one having its own source of power. Such a "balanced" system would not depend on "beamed-in" energy from another I-R source.

c. Light Source

There are two choices for a light source, a tungsten filament and a cesium arc. Of these two, cesium is preferable due to the ease with which it may be current modulated. There is, however, the problem that cesium arcs which are small enough and which have low enough power requirements for our application are not commercially available. If [ ] can find or develop such an arc, then the cesium arc will be used. If not, then a tungsten filament will be used, together with optical modulation.

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d. Progress to Date

There are a maximum of three persons working on this project at this time and their progress has been relatively insignificant. To date, [ ] has spent \$7,500.00 in 3½ months. The initial phases of developmental projects often produce a small degree of tangible information during their early stages; this may be the case with [ ] progress on RD-54, T.O. #1. No data or equipment is ready for exhibition or demonstration to the APD representatives at this time.

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e. Progress Reports

[ ] has submitted no progress reports on P-101. Monthly reports will be forthcoming commencing December 1953. Graphs, engineering drawings, photographs and performance figures will accompany the reports.

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3. Recommendations:

a. The selection of a power generator must be made before any exact limits can be imposed on the I-R communications system. The alternatives are (1) use the miniature [ ] motor-generator, and (2) design and have built a new smaller motor-generator.

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b. If we are to design and build a new motor-generator, the problem of rights and manufacturing privileges must be clarified.

c. It must

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c. It must be decided whether a balanced or unbalanced system is desirable.

d. It must be decided for what ranges and periods of operation the system is needed.

NOTE: The decisions mentioned in c. and d. above should be made with the cooperation of the Area Divisions who have placed the requirement for this Infra-Red communications system.



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